

REMARKS

Reconsideration and withdrawal of the rejections of record are respectfully requested in view of the claim amendments and the following remarks.

Response Regarding Restriction of Claims

The Office Action states that the Restriction Requirement is made final. Applicants respectfully disagree, but have canceled the non-elected claims without prejudice or disclaimer in order to expedite prosecution. New claims 29-47 are all directed to methods of producing a detergent.

Response to Anticipation Rejection

Claims 1-10 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by a machine generated English language translation of JP 08-112573 to Suzuki et al. ("SUZUKI"). The rejection states that SUZUKI discloses electrolyzing a solution containing at least one of carbonate and bicarbonate of alkali metal as a solution to be electrolyzed; an electrolytic cell having a membrane separating anode and cathode; and using the water produced in either anode, cathode or mixed. The rejection also states that SUZUKI teaches the same properties such as pH.

Applicants respectfully traverse the rejection because SUZUKI does not disclose each and every element of the claimed invention.

The translation of SUZUKI discloses a washing station which generates electrolysis acid water or alkali water, and uses either the acid or alkali water for washing after soldering. The washing station has a pure water generation machine which generates pure water from the acid or alkali water. *See, e.g.*, paragraph [0009]. The pure water generation machine processes electrolysis acid water to pure water, such as by heating distillation and reverse osmosis. *See, e.g.*, paragraph [0028]. The electrolysis water which consists of acid water or alkali water is disclosed to be excellent in detergency. Thus, SUZUKI discloses that the acid water is used to

eliminate an inorganic compound, and the alkali water is used to eliminate organic compound or acid. *See, e.g.*, paragraph [0010]; *see also* claim 1. Pure water from the pure water generation machine can be used as a finishing wash. *See, e.g.*, paragraph [0011]. SUZUKI discloses that two or more backwashing-by-water tubs can be provided and the electrolysis acid water and alkali water can separately supplied at different sides. *See, e.g.*, paragraph [0039]. The examples depict the disclosed process.

In contrast, Applicants claim 29, for example, recites a method of producing detergent comprising preparing a solution containing at least one of carbonate or bicarbonate of alkali metal, supplying the solution to both an anode chamber and a cathode chamber of an electrolysis cell, wherein the cathode chamber and the anode chamber are separated by a diaphragm, electrolyzing the solution and mixing the resulting cathode water and anode water to obtain the detergent.

Applicants respectfully submit that SUZUKI does not disclose, *inter alia*, mixing the cathode water and electrode water to obtain a detergent comprising the combined materials. Rather, as set forth above, SUZUKI exclusively discloses preparing a detergent of unmixed electrode and cathode waters. The rejection generally cites paragraph [0035] and pages 4 and 5 of SUZUKI as allegedly disclosing the claimed invention. However, it appears that at least the foregoing features are not disclosed therein.

For at least these reasons, reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) are respectfully requested.

Response to Obviousness Rejection

Claims 11-16 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over SUZUKI in view of U.S. Patent No. 5,443,751 to Mazzola ("MAZZOLA"). The rejection states that SUZUKI, as applied in the anticipation rejection, does not disclose the addition of other washing aid agents but that MAZZOLA discloses that it is well known in the art to add washing aid agents. For example, the rejection states that MAZZOLA renders obvious contacting

carbonate-containing water with insoluble carbonate to reduce residue under cold water conditions. The rejection concludes that it would have been obvious to combine SUZUKI and MAZZOLA to arrive at the presently claimed invention.

First, Applicants respectfully submit that SUZUKI does not disclose or suggest, *inter alia*, mixing cathode water and anode water to obtain a detergent. In fact, SUZUKI discloses that the separate water types are useful against different types of unwanted materials. See paragraph [0010]. Thus, as noted above, SUZUKI discloses using acid and alkali water separately to obtain these results. Accordingly, it appears that SUZUKI actually teaches away from the claimed invention. Therefore, the proposed art combination does not disclose or suggest each and every element of the claimed invention.

By way of further explanation, using a detergent prepared according to the present invention, there can be simultaneously achieved, *e.g.*, the effects of removing protein, prevent hands from getting rough, easy handling, and performance on effluent treatment by converging fluidity of electrolytic washing water to be in an alkalescent range (specifically, pH 8.5 to 10.5 as described in claims 3 and 5) by mixing both acid water and alkaline water. Such is not suggested in SUZUKI, which is directed to separately using and applying alkali and acid waters. Although SUZUKI mentions washing effects on stains of particular substances, there is not any description on the safety to prevent hands from getting rough, easy handling nor performance on effluent treatment attained by the present invention.

Regarding the pure water generator of SUZUKI, although there is a description of reproducing unused electrolytic water by a pure water generator using the heat distillation method and the reverse osmosis membrane method, this is merely a practical measure necessitated by maintaining the acid and alkali waters separate for use in washing. In contrast, the present invention provides an environmentally-benign detergent which can be disposed as it is *without using a pure water generator*, as disclosed in SUZUKI.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Independent of the above, Applicants respectfully submit that there is no motivation in

the applied art to modify SUZUKI according to MAZZOLA. As discussed below, the rejection does not recognize that the applied documents relate to substantially different subject matter, and proposes to modify SUZUKI according to cold-water laundry based considerations disclosed in MAZZOLA.

MAZZOLA discloses a powder laundry detergent granule for washing fabric, in which an adherent coating is used to reduce residue in cold-water laundry conditions. There is no disclosure or suggestion of any connection to industrial washing of work materials after soldering, nor, of course, any of the considerations attendant thereto.

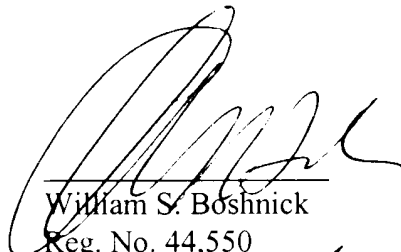
As mentioned above, the rejection states that the claimed invention as a whole would have been obvious to one skilled in the art because MAZZOLA teaches the use of the washing aid agents with carbonate-containing solutions to form detergents. However, it is submitted that the applied *documents as a whole* do not motivate their combination. Specifically, MAZZOLA relates to a granule laundry detergent, not a liquid electrolyzed acid or alkali detergent. As noted in the rejection, the detergent of MAZZOLA was developed with cold water laundry in mind.

With the above in mind, to the extent that MAZZOLA discloses washing aid agents, the rejection does not provide and there is no proper motivation in the applied art to modify the solder washing disclosure of SUZUKI accordingly. For example, claim 37 recites antisoil redeposition. Claim 38 recites a nonionic surfactant or a dispersion agent. Claim 39 recites a water softening agent. The rejection does not state why one skilled in the art would use these additives in the device and process of using acid or alkali water in SUZUKI. *See, e.g.,* Example 1 of SUZUKI. Claim 41 recites contacting the detergent with solid carbonate composite which is insoluble or hardly soluble in water. The rejection states that the features of claim 41 would have been obvious because MAZZOLA discloses that residue can occur under cold water laundry conditions. It requires improper hindsight to even consider this issue because SUZUKI has nothing to do with laundry. Similarly, with respect to the other claims, the rejection does not give proper motivation as to why the recited materials would be used specifically in *SUZUKI*, as opposed to use in a detergent generally.

Thus, it is respectfully submitted that the proposed combination necessarily relies on improper hindsight. For these additional reasons, reconsideration and withdrawal of the rejection are respectfully requested.

Respectfully submitted,

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Page 33, 094